

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 09/682,921
Applicant : ADEDEJI et al.
Filed : November 1, 2001
TC/A.U. : 1711
Examiner : J. Mullis

Assignee Docket No. : 08CN6024-2
Attorney Docket No. : GP2-0185
Customer No. : 23413

Via Facsimile (703) 872-9310, TC Group 1700
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 CFR § 1.131

Adeyinka Adedeji, Thomas J. Hartle, John C. Haylock, David R. Lamb, and Vincent
L. Lanning declare and state that:


1. We are the inventors of the invention claimed in the above-identified patent application.
2. We conceived in the United States the invention disclosed and claimed in the above-identified patent application prior to September 29, 2000 and then diligently reduced the invention to practice in the United States prior to September 29, 2000.
3. As evidence in support of this prior conception and reduction to practice,

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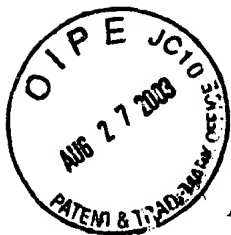
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I, Thomas J. Hartle, declare and state:

1. My educational background includes a B.S. in Chemistry from Moravian College (1995), and a Ph.D. in Chemistry from the Pennsylvania State University (2000).

2. I have been employed by the General Electric Company since June, 2000, where I am currently a Product Development Specialist in the NORYL® Technology Department of GE Plastics.

3. I am an inventor or co-inventor on at least three issued U.S. patents and at least eight pending U.S. patent applications relating to thermoplastic compositions, methods, and articles.

4. I am an applicant on the above-identified application.

5. I designed and supervised the testing of three samples to determine the effect on impact strength of the block copolymer components. Compositions and properties are summarized in the Table, below. All samples contained 19.80 weight percent of poly(2,6-dimethyl-1,4-phenylene ether), 20.05 weight percent of homopolystyrene, 52.13 weight percent of polypropylene, and 8.02 weight percent of total block copolymer. In Comparative Example A, the block copolymer consisted of a hydrogenated block copolymer that was a styrene-(ethylene-butylene)-styrene block copolymer having a total polystyrene content of 66 weight percent. In Comparative Example B, the block copolymer consisted of an unhydrogenated block copolymer that was a styrene-butadiene-styrene block copolymer having a styrene content of 28 weight percent. In Example A, the block copolymer consisted of a 50:50 weight/weight blend of the hydrogenated block copolymer and the unhydrogenated block copolymer from the comparative examples. Each composition was compounded and molded into bars for impact strength testing. Dynatup (falling dart) energy to failure, expressed in foot-pounds, was measured at 23°C according to ASTM D3763. Although one would have expected the impact strength of the composition with the copolymer blend to be in between those of the composition with the hydrogenated copolymer alone and the composition with the unhydrogenated copolymer alone, it was instead much greater. Specifically, the Example A composition containing 4.01 weight percent each of a hydrogenated styrene-butadiene-styrene triblock copolymer and an unhydrogenated styrene-butadiene-styrene triblock copolymer exhibited a Dynatup (falling dart) energy to failure value of 11.8 foot-pounds, which is 111% greater than the value of 5.6 foot-pounds exhibited by the Comparative Example A composition with 8.02 weight percent of the hydrogenated

block copolymer alone, and 637% greater than the value of 1.6 foot-pounds exhibited by the Comparative Example B composition with 8.02 weight percent of the unhydrogenated block copolymer alone. There is therefore a substantial synergistic effect for the combination of the hydrogenated block copolymer and the unhydrogenated block copolymer.

Table

	C. Ex. A	C. Ex. B	Ex. A
Poly(arylene ether) (wt%)	19.80	19.80	19.80
Homopolystyrene (wt%)	20.05	20.05	20.05
Polypropylene (wt%)	52.13	52.13	52.13
Hydrogenated block copolymer (wt%)	8.02	--	4.01
Unhydrogenated block copolymer (wt%)	--	8.02	4.01
Dynatup Energy to Failure (ft-lb)	5.6	1.6	11.8

6. I further declare that all statements and representations made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements and representations were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued therefrom.

08/22/03

Dated

Thomas J. Hartle

Thomas J. Hartle, Ph.D.



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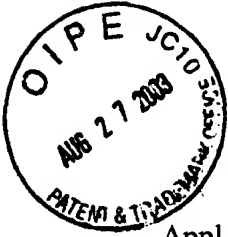
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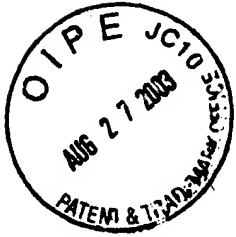
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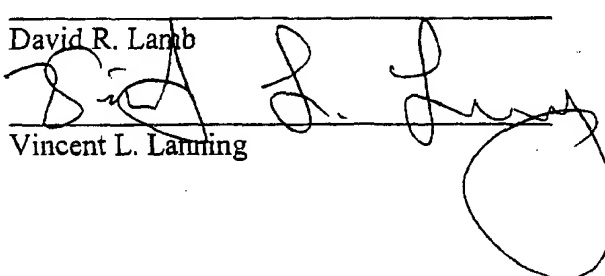
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